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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,467	12/17/2001	Ali Keshavarzi	10559-678001 / P13211	6174
20985	7590	11/05/2003	EXAMINER SPEARS, ERIC J	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			ART UNIT 2878	PAPER NUMBER

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/024,467

Applicant(s)

KESHAVARZI ET AL.

Examiner

Eric J Spears

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-26 is/are pending in the application.
- 4a) Of the above claim(s) 16-24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-15 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 6, the claim still recites an "integrated voltage source" on lines 2-3. It is unclear, however, what the voltage source is integrated with. Therefore, the claim will be examined as reciting that the voltage source is integrated into a single unit.

Regarding Claim 9, Claim 9 depends from a claim (Claim 7) which has been canceled as per the listing of claims submitted in the amendment filed 7/28/2003. Therefore, Claim 9 is rendered indefinite and no antecedent basis exists for the terms "the radiation sensor" and "the adjustable voltage source". No art has been applied to this claim as the claim is so indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Morcom (5,694,448).

Regarding Claim 1, Morcom teaches a method comprising: adjusting a threshold level radiation-measuring circuit 6,7; and obtaining an output signal based on radiation dose sensed by the radiation sensor 3 (See abstract).

Regarding Claim 2, Morcom teaches exposing the radiation-measuring circuit to radiation (See abstract).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over "CMOS Radiation Sensor with Binary Output" (Moreno et al.) in view of Lin et al. (2001/0019285).

Regarding Claims 1 and 2, Moreno teaches exposing a CMOS radiation sensor with an exposure threshold to light and obtaining an output signal based on radiation dose sensed by the radiation sensor (See sects I, II; Fig. 1). Moreno does not teach adjusting the threshold. However, Lin teaches changing the threshold of a transistor. It would have been obvious to one of ordinary skill in the art to modify the device of Moreno by adjusting the threshold of the radiation sensing transistor as taught by Lin ,

in order to allow for use of the sensor in different environments or to measure different radiation dosages.

Regarding Claim 3, the modified device of Moreno teaches wherein the radiation sensor includes a transistor (See Moreno Fig. 1), the method including supplying voltage between a body the terminal and a source terminal to adjust a body bias of the radiation sensor (See Lin abstract).

Regarding Claim 4, the modified device of Moreno teaches adjusting the body bias the radiation-sensing transistor during exposure radiation as the sensor would be exposed to radiation at all times.

Regarding Claims 5 and 6, the modified device of Moreno teaches adjusting the body bias to the transistor using a voltage source 160 which is external to the radiation measuring circuit and which is integrated into a single unit.

Regarding Claims 25 and 26, Moreno teaches exposing a CMOS radiation sensor with an exposure threshold to light and obtaining an output signal based on radiation dose sensed by the radiation sensor (See sects I, II; Fig. 1). Moreno does not teach adjusting the threshold. However, Lin teaches changing the threshold of a transistor. It would have been obvious to one of ordinary skill in the art to modify the device of Moreno by adjusting the threshold of the radiation sensing transistor as taught by Lin , in order to allow for use of the sensor in different environments or to measure different radiation dosages. The modified device of Moreno teaches adjusting the body bias to the transistor using a voltage source 160 which is external to the radiation measuring circuit and which is integrated into a single unit.

***Allowable Subject Matter***

Claims 10-15 are allowed.

The following is an examiner's statement of reasons for allowance: Regarding Claim 10, the prior art of record fails to teach or reasonably suggest a radiation sensor apparatus comprising, in addition to the other related features of the claim, a current mirror, as recited in Claim 10, lines 5-9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Application/Control Number: 10/024,467  
Art Unit: 2878

Page 6

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EJS  
10/24/03

  
**Que T. Le**  
**Primary Examiner**